

CLAIMS

What is claimed is:

1 1. A circuit board comprising:

2 a substrate;

3 a plurality of through holes in the substrate; and

4 a malleable, electrically conductive material filled within each of the

5 through holes.

1 2. A circuit board as recited in claim 1, wherein the material is to receive an

2 electrical contact of an electronic component when the electronic component is

3 coupled to the circuit board.

1 3. A circuit board as recited in claim 2, wherein each said electrical contact is a

2 pin.

1 4. A circuit board as recited in claim 2, wherein each said electrical contact is a

2 solder ball.

1 5. A circuit board as recited in claim 1, wherein the material is an elastomer.

1 6. A circuit board as recited in claim 1, wherein the through holes are tapered.

1 7. A circuit board comprising:

2 a substrate having a first surface and a second surface parallel to the first

3 surface; and
4 a plurality of tapered through holes in the substrate from the first surface
5 to the second surface;
6 each of the through holes filled with an electrically conductive elastomer
7 to receive a separate one of a plurality of electrical contacts of an electronic
8 component, to couple the electronic component to the circuit board.

1 8. A circuit board as recited in claim 7, wherein the electrical contacts are pins
2 that are inserted into the elastomer when the electronic component is coupled to
3 the circuit board.

1 9. A circuit board as recited in claim 7, wherein the electrical contacts are solder
2 balls that compress the elastomer when the electronic component is coupled to
3 the circuit board.

1 10. A circuit board as recited in claim 7, wherein the elastomer includes
2 conductive particles interspersed therein.

1 11. An apparatus comprising:
2 a circuit board including
3 a substrate having a first surface and a second surface parallel to
4 the first surface,
5 a plurality of tapered through holes in the substrate from the first

6 surface to the second surface, and
7 an electrically conductive elastomer filling each of the through
8 holes; and
9 an electronic component coupled to the circuit board, the electronic
10 component having a plurality of electrical contacts, each in physical and
11 electrical contact with the elastomer in a separate one of the through holes.

1 12. An apparatus as recited in claim 11, wherein the electrical contacts are pins,
2 each inserted into the elastomer in a separate one of the through holes.

1 13. An apparatus as recited in claim 11, wherein the electrical contacts are solder
2 balls, each of the solder balls compressing the elastomer in a separate one of the
3 through holes.

1 14. An apparatus as recited in claim 13, further comprising a fastener to secure
2 the electronic component to the circuit board.

1 15. An apparatus as recited in claim 11, wherein the elastomer includes
2 conductive particles interspersed therein.

1 16. A method of manufacturing a circuit board, the method comprising:
2 creating a plurality of through holes in a circuit board substrate; and
3 causing each of the through holes to be filled with a malleable, electrically
4 conductive material.

1 17. A method as recited in claim 16, wherein the material is an elastomer.

1 18. A method as recited in claim 16, wherein the through holes are tapered.

1 19. A method of mounting an electronic component to a circuit board, the
2 method comprising:

3 aligning a plurality of electrical contacts of the electronic component with
4 a corresponding plurality of electrical contacts of the circuit board, wherein each
5 of the electrical contacts of the circuit board comprises a through hole in the
6 circuit board filled with an electrically conductive elastomer; and

7 placing the electrical contacts of the electronic component in contact with
8 the electrical contacts of the circuit board.

1 20. A method as recited in claim 19, wherein the electrical contacts of the
2 electronic component are pins of a pin grid array, and wherein said placing the
3 electrical contacts of the electronic component in contact with the electrical
4 contacts of the circuit board comprises inserting each of the pins into the
5 conductive elastomer in a separate one of the through holes.

1 21. A method as recited in claim 19, wherein the electrical contacts of the
2 electronic component are solder balls of a ball grid array, and wherein said
3 placing the electrical contacts of the electronic component in contact with the
4 electrical contacts of the circuit board comprises compressing each of the solder

5 balls against the conductive elastomer in a separate one of the through holes.

1 22. A method as recited in claim 21, further comprising securing the electrical
2 component to the circuit board.

1 23. A circuit board comprising:

2 a substrate; and

3 coupling means for removably coupling an electronic component to the
4 substrate physically and electrically, without using a socket.

1 24. A circuit board as recited in claim 23, wherein said coupling means
2 comprises a plurality of through holes.

1 25. A circuit board as recited in claim 24, wherein said coupling means further
2 comprises an elastomer filled in each of the plurality of through holes.